REMARKS

The present Response is intended to be fully responsive to the objections and rejections raised in the Office Action (final rejection), and is believed to place the application in condition for allowance. Further, the Applicants do not acquiesce to any portion of the Office Action not particularly addressed. Favorable reconsideration and allowance of the application is respectfully requested.

By virtue of not repeating in the present Office Action the following art-based rejections initially lodged in the previous Office Action, the Examiner has effectively withdrawn the same:

        1)   a rejection of claim 29 under 35 U.S.C. §101 on the basis of the claimed invention being allegedly directed to non-statutory subject matter;

        2)   a rejection of each of claims 3, 5, 8, 13, and 24 under 35 U.S.C. §112, second paragraph, as being allegedly indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention; and

        3)   a rejection of each of claims 1 and 4-29 under 35 U.S.C. §102(e) as being allegedly anticipated by U.S. Patent No. 7,046,396 to Chan (*Chan*).

Turning now to the substance of the main paragraphs 1-7 of the present Office Action, the Examiner noted that:

        4)   claims 1, 4-11, and 13-36 are pending in the application;

        5)   the formal drawings filed on December 27, 2007 are accepted;

        6)   the specification is objected to;

        7)   claims 4 and 36 are objected to on the basis of alleged informalities;

        8)   claim 31 is objected to under 37 CFR 1.75(c) as being of allegedly improper dependent form; and

        9)   claims 1, 4-11, and 13-36 are rejected under 29 is rejected under 35 U.S.C. §103(a) over U.S. Patent No. 7,046,396 to Chan (*Chan*) in view of U.S. Patent No. 6,563,510 to Rice *et al.* (*Rice*).

Referring now to the "Response to Arguments" section of page 43 of the present Office Action, the Examiner replied to the Applicants' arguments submitted on December 26,

2007 with regard to the patentability of amended independent claims 1, 18 and 29 over the presently-cited combination of *Chan* over *Rice*, to wit:

> Rice would appear to fail, inter alia, to teach or suggest a modification to the teachings of Chan that would yield an apparatus for, or a method including, dividing a color gamut into a plurality of discrete color spectral values, and digitizing the discrete color spectral values, wherein the digitized discrete spectral color values are representable by means of at least one reflectance curve specified in regular intervals, and wherein over at least a part of the color gamut, the digitized discrete color spectral values are substantially equidistant to each other with respect to the color gamut",

stating that the above-quoted arguments have been considered, but further asserting, *inter alia*, that:

> 10)   "RICE teaches a paint color matching system, wherein the "paint color samples have been arranged according to the guiding principle that adjacent samples should represent <u>equal intervals of color perception</u>". This principle can be interpreted as having *digitized discrete color spectral values which are equidistant to each other with respect to the color gamut.*"

By this response, portions of the Specification (including the DETAILED DESCRIPTION OF THE INVENTION and ABSTRACT sections thereof) are amended, each of claims 33 and 36 is canceled without prejudice, each of claims 1, 17-20, 24, 29-32, 34 and 35 is amended, and each of new claims 37-48 is added. Upon the entry of the above Amendment to the Claims, the pending claims of the application will be claims 1, 4-11, 13-32, 34-35, and 37-48. Of the pending claims in the application, each of claims 1, 18, and 29 is presented in independent form. In view of the above amendments and the following discussion, the Applicants submit that the Examiner's concerns underlying the above-mentioned objections to the specification, and to claims 4, 31, and 36, have been fully addressed, and that each of the claims presently pending in the application is non-obvious under 35 U.S.C. §103, and is thus in condition for allowance. The Applicants respectfully request that the Examiner reconsider and withdraw all such objections and rejections, and issue a prompt notice of allowance with respect to all pending claims.

I. WITHDRAWAL OF 35 U.S.C. §101, §112, AND §102(e) REJECTIONS

The Applicants observe that in issuing the present Office Action, the Examiner has omitted, and thus effectively withdrawn, the rejections of claim 29 under 35 U.S.C. §101, claims 3, 5, 8, 13, and 24 under 35 U.S.C. §112, second paragraph, and claims 1 and 4-29 under 35 U.S.C. §102(e), initially lodged in the previous Office Action. The Applicants appreciate and thank the Examiner for reconsidering and withdrawing such rejections.

II. ACCEPTANCE OF NEW CORRECTED DRAWING SHEETS

In the Office action, the Examiner indicated that the formal drawings filed on December 27, 2007 are accepted. The Applicants appreciate and thank the Examiner for considering and accepting such formal drawings.

III. OBJECTIONS TO THE SPECIFICATION

The Examiner has objected to pages 7 (as-filed line 30), 8 (as-filed lines 14 and 15), 10 (as-filed line 32), 11 (as-filed lines 8, 13, 16, and 23), and 14 (as-amended line 6) of the Detailed Description of the Preferred Embodiments section for alleged informalities arising from the noted use of the trademarks Postscript™, Quark XPress™, Adobe Photoshop™, (Adobe) Illustrator™, (Adobe) InDesign™, Eye-One™, iQ Match™, ProfileMaker™, and SpectroMat™. In response, the Applicants respectfully direct the Examiner's attention to the above Amendments to the Specification, by which changes to the Specification are implemented corresponding to the objections lodged by the Examiner. In such circumstances, the Applicants submit that the Examiner's concerns giving rise to the present objection have been addressed. In turn, withdrawal of the remaining objections to the Specification is respectfully requested.

III. OBJECTIONS TO THE CLAIMS

The Examiner has objected to claim 4 "because of the following informalities: ... **Line 2**: it is assumed that applicant intended to cite **spectral** instead of "**spect ral**"". In response, the Applicants confirm that the recitation "spectral", as set forth in the as-filed version of claim 4 and unchanged thereafter, is correct. As shown in the above listing of

the as-amended claims, the defect/informality to which the Examiner refers no longer appears. In such circumstances, the Applicants submit that the Examiner's concerns giving rise to the present objection have been addressed. In turn, withdrawal of the objection to claim 4 is respectfully requested.

The Examiner has objected to claim 36 "because of the following informalities: ... Lines 1-3: it is assumed that the "first wherein clause" should be removed; that is, wherein the processor being programmed to divide a color gamut into a plurality of discrete color spectral values includes" should be removed. In response, the Applicants respectfully direct the Examiner's attention to the above Amendments to the Claims section, in which claim 36 has been canceled. In such circumstances, the Applicants submit that the present objection has been rendered moot, and respectfully request withdrawal of the objection on that basis.

The Examiner has objected to claim 31 "under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. *The limitations cited in claim 31 are also cited in claim 29 from which claim 31 is dependent upon.*" In response, the Applicants direct the Examiner's attention to the respective as-amended forms of independent claim 29 and dependent claim 31, and submit that independent claim 29 recites only "wherein at least one of the digitized discrete spectral color values is representable by means of a reflectance curve specified in regular intervals", and as such does not actually recite "representing the at least one of the digitized discrete spectral color values by means of a reflectance curve specified in regular intervals". In such circumstances, the Applicant submit that the presence of the latter phrase in dependent claim 31 is appropriate and proper. In such circumstances, the Applicants submit that the Examiner's concerns giving rise to the present objection have been addressed. In turn, withdrawal of the objection to claim 31 is respectfully requested.

IV. AMENDMENTS TO THE PENDING CLAIMS

The Applicants have amended independent claim 1 to more precisely define the presently claimed subject matter. For example, claim 1, directed to a method for generating a digital color standard system for the generation or reproduction of standardized colors, has been amended, *inter alia*, to:

1) include the phrase "including a saturation coordinate" as relates to the term "color gamut" recited in step (a) of the claimed method,

2) include the phrases "wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation" and "wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation" as relates to step (b) of the claimed method,

3) omit the phrase "wherein over at least a part of the color gamut, the digitized discrete color spectral values are substantially equidistant to each other with respect to the color gamut" as relates to step (d) of the claimed method and include the phrase "wherein over at least a part of the color gamut, the discrete spectral color values of the plurality thereof are substantially equidistant to each other with respect to the color gamut" as relates to step (b) of the claimed method,

4) modify the phrase "representing the digitized discrete spectral color values by means of at least one reflectance curve specified in regular intervals" recited in step (c) of the method to read "representing at least one of the digitized discrete spectral color values of the corresponding plurality thereof by means of a reflectance curve specified in regular intervals".

No new matter has been added. Support for such amendment to claim 1 is found in the application, as filed (see, *e.g.*, as-filed claims 2, 3 and 12, and lines 8-19 of page 3 of the Specification (Summary of the Invention)).

The Applicants have amended independent claim 18 to more precisely define the presently claimed subject matter. For example, claim 18, directed to a computer system for generating a digital color standard system for the generation or reproduction of standardized colors, has been amended, *inter alia*, to:

1) include the phrase "including a saturation coordinate" as relates to the "color gamut" recited in programmed function (a) associated with the recited processor,

2) include the phrases "wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation" and "wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation" as relates to programmed function (a) associated with the recited processor,

3) omit the phrase "wherein over at least a part of the color gamut, the digitized discrete color spectral values are substantially equidistant to each other with respect to the color gamut" as relates to the programmed function (b) associated with the recited processor and include the phrase "wherein over at least a part of the color gamut, the discrete spectral color values of the plurality thereof are substantially equidistant to each other with respect to the color gamut" as relates to the programmed function (a) associated with the recited processor, and

4) modify the phrase "wherein the digitized discrete spectral color values are representable by means of at least one reflectance curve specified in regular intervals" as relates to the programmed function (b) associated with the recited processor to read "wherein at least one of the digitized discrete spectral color values is representable by means of a reflectance curve specified in regular intervals".

No new matter has been added. Support for such amendment to claim 18 is found in the application, as filed (see, *e.g.*, as-filed claims 2, 3 and 12, and lines 8-19 of page 3 of the Specification (Summary of the Invention)).

The Applicants have amended independent claim 29 to more precisely define the presently claimed subject matter. For example, claim 29, directed to a data carrier system, has been amended, *inter alia*, to:

1) include the phrase "having a saturation coordinate" as relates to the "color gamut" in the item (a) associated with the color data generation recitation,

2) include the phrases "wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation" and "wherein at least another of the discrete spectral color values

includes the first color with a second saturation different than the first saturation" in the item (b) associated with the color data generation recitation,

3) omit the phrase "wherein over at least a part of the color gamut, the digitized discrete color spectral values are substantially equidistant to each other with respect to the color gamut" in the item (c) associated with the color data generation recitation and include the phrase "wherein over at least a part of the color gamut, the discrete spectral color values of the plurality thereof are substantially equidistant to each other with respect to the color gamut" in the item (b) associated with the color data generation recitation, and

4) modify the phrase "wherein the digitized discrete spectral color values are representable by means of at least one reflectance curve specified in regular intervals" in the item (c) associated with the color data generation recitation to read "wherein at least one of the digitized discrete spectral color values is representable by means of a reflectance curve specified in regular intervals".

No new matter has been added. Support for such amendment to claim 29 is found in the application, as filed (see, *e.g.*, as-filed claims 2, 3 and 12, and lines 8-19 of page 3 of the Specification (Summary of the Invention)).

V. SUPPORT FOR NEW CLAIMS 37-48 FOUND IN APPLICATION AS FILED

As indicated in the above Amendment to the Claims, each of new claims 37-48 has been added to the application. The Applicants urge that support for the subject matter recited in such claims is found in the application as filed (see, e.g., the following passage of the application located in lines 8-19 of page 3 of the Specification (Summary of the Invention) (emphasis added)):

> [I]t is advantageous to provide discrete spectral color values which are equidistant to each other with respect to the color gamut, since the color gamut defines an area in the color space which contains all the colors which may be reproduced using the primary sources. The reference white is the center of the color gamut area, and colors lying close to the reference white are the less saturated colors. Colors located far from this point are the more saturated colors. If this color gamut is divided into a network of equidistant discrete spectral color values or gamut values and these values are digitized, it is possible to provide a digital color swatch book of all the available colors within a

color gamut. If a standard color gamut is defined, it is possible to define a digital standard swatch book for this standard color gamut. It is also possible to develop a plurality of digital color swatch books on the basis of different closed loops through the saturated color gamut, providing different colors with the same saturation.

It is noted that the phrase "providing different colors with the same saturation" refers, for the example, to the characteristic of one closed loop through the saturated color gamut, in that such a loop would define a single saturation applied to a plurality of different colors. As such, the phrase should not be taken to mean that different closed loops have the "same saturation", or provide "different colors". Rather, the Applicants urge that quite the contrary is true, in that two different closed loops around the same white spot of a color gamut with a saturation coordinate, as disclosed in the present application, will each include all of the colors of that color gamut, while defining different saturations.

VI. REJECTION OF CLAIMS 1, 4-11, 13-36 UNDER 35 U.S.C. §103(a) (Chan/Rice)

The Examiner rejected each of claims 1, 4-11, and 13-36 as being allegedly obvious under 35 U.S.C. §103(a) over *Chan* in view of *Rice*. More particularly, the Examiner has replied to the Applicants' arguments submitted on December 26, 2007 with regard to the patentability of amended independent claims 1, 18 and 29 over the presently-cited combination of *Chan* over Rice by stating that the same have been considered, but further asserting, *inter alia*, that:

> "RICE teaches a paint color matching system, wherein the "paint color samples have been arranged according to the guiding principle that adjacent samples should represent equal intervals of color perception". This principle can be interpreted as having *digiti zed discrete color spectral values which are equidistant to each other with respect to the color gamut*."

The rejection is respectfully traversed.

As the Examiner is aware, to establish a *prima facie* case of obviousness, one of the basic criteria that must be met is that the prior art reference (or references when combined) must teach or suggest all the claimed limitations. *In re* Vaeck, 947 F. 2d, 488 (Fed. Cir. 1991). Here, a *prima facie* case of obviousness has not been established, at least because each of independent claim 1, independent claim 18, and

independent claim 29 recites limitations not taught nor suggested in either of *Chan* or *Rice*, whether taken alone or in combination.

Chan generally teaches a system that includes a first computer that can communicate with a second computer, wherein the second computer sends information to the first computer that includes a desired ink color and optionally includes information of other desired ink properties, and the first computer includes a database of data for predicting color data of ink formulations using a selected ink base color set, a software program for selecting an ink formulation based on data for a desired ink, and a software program for sending information to the second computer to display the color of the selected ink formulation on a color monitor connected to the second computer. (*Chan*, Abstract.) More particularly, *Chan* teaches wherein a spectrophotometer 14, a color monitor 16, and a viewing booth 18 are used to create a color database associated with a set of ink colors for manufacturing the ink. (*Chan*, col. 3, lines 43-47.) The database is created by measuring the color information for print samples prepared from the ink color base set and/or combinations thereof at different concentrations or strengths, wherein the database contains a sufficient number of color information points so that the computer can extrapolate, if necessary, the color information that would result from the different combinations of the ink base color set (in other words, the computer calculates a synthesized spectral curve or other color information for the ink formulation based on the color information for the different concentrations of each ink base color). (*Chan*, col. 5, lines 38-48.)

Chan, however, does not teach each and every element of the Applicants' invention recited in any of the presently pending claims. For example, independent claim 1 (as amended herein) recites a method including, *inter alia*, a) providing a color gamut including a saturation coordinate, b) dividing the color gamut into a plurality of discrete spectral color values, wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation, wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation, and wherein over at least a part of the color gamut, the discrete spectral color values are substantially equidistant to each other with respect to the color gamut, c) digitizing the discrete spectral color values, and

d) representing at least one of the digitized discrete spectral color values by means of a reflectance curve specified in regular intervals. For another example, independent claim 18 (as amended herein) recites a computer system comprising, *inter alia*, a processor that is programmed to a) divide a color gamut having a saturation coordinate into a plurality of discrete spectral color values, wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation, wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation, and wherein over at least a part of the color gamut, the discrete spectral color values are substantially equidistant to each other with respect to the color gamut, b) digitize the discrete spectral color values, wherein at least one of the digitized discrete spectral color values is representable by means of a reflectance curve specified in regular intervals; and c) process the digitized discrete spectral color values. For yet another example, independent claim 29 (as amended herein) recites a data carrier system comprising, *inter alia*, a computer readable medium configured for the storage of color data thereon, and on which computer readable medium is stored color data, the color data being one selected from the group consisting of color recording characteristics data for recording substrates, color reproduction characteristics data for color materials, color appearance characteristics data for color reproducing processes, and combinations thereof, wherein the color data is generated by: a) providing a color gamut including a saturation coordinate, b) dividing the color gamut into a plurality of discrete spectral color values, wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation, wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation, and wherein over at least a part of the color gamut, the discrete spectral color values are substantially equidistant to each other with respect to the color gamut, and c) digitizing the discrete spectral color values, wherein at least one of the digitized discrete spectral color values is representable by means of a reflectance curve specified in regular intervals.

Chan, by contrast, and for example, fails to teach or suggest either of: 1) a step or function of providing a color gamut having or including a saturation coordinate, or 2) a

step or function of dividing the color gamut into a plurality of discrete spectral color values, wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation, wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation, and wherein over at least a part of the color gamut, the discrete spectral color values are substantially equidistant to each other with respect to the color gamut. As indicated by the following quote taken from the present Office Action, the Examiner has already conceded certain of the above-noted shortcomings of *Chan*: "CHAN does not specifically teach ... and wherein over at least a part of the color gamut, the digitized color spectral values are substantially equidistant to each other with respect to the color gamut."

Being of the position that *Rice* supplies that which has been revealed to be absent in *Chan*, the Examiner offers the following observations regarding the teachings of *Rice*:

> "RICE teaches a paint color matching system, wherein the "paint color samples have been arranged according to the guiding principle that adjacent samples should represent equal intervals of color perception". This principle can be interpreted as having *digitized discrete color spectral values which are equidistant to each other with respect to the color gamut.*"

and concludes, at least in part on that basis, that the respective subject matter of each of claims 1, 4-11, and 13-36 is obvious.

As the Examiner has noted, so too do the Applicants observe that *Rice* teaches that "the samples are arranged with reference to a vertical value axis 20, with Chroma varying with the radial distance from the value axis" (*Rice*, column 8, lines 41-45 (emphasis added)), and illustrates "a plurality of fixed non-overlapping contiguous portions 50 of color space" (*Rice*, column 8, lines 59-60).

Based on these and other disparities between the teachings of *Rice* and the presently-claimed invention, the applicants urge that *Rice* fails to supply the above-indicated subject matter set forth in all of the pending claims that is absent from *Chan*. More particularly *Rice*, whether considered singly or in combination with *Chan*, fails to teach any modification or enhancement to the teachings of *Chan* to provide, for example, 1) a step or function of providing a color gamut having or including a

saturation coordinate, or 2) a step or function of dividing the color gamut into a plurality of discrete spectral color values, wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation, wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation, and wherein over at least a part of the color gamut, the discrete spectral color values are substantially equidistant to each other with respect to the color gamut.

Rice dwells on color information comprising hue, value, chroma or CIELAB coordinates (Rice, column 8, lines 14-15). As noted in the Wikipedia entry relating to "Lab color space" found at http://en.wikipedia.org/wiki/Lab_color_space, "[u]nlike the RGB and CMYK color models, Lab color is designed to approximate human vision". As such, to the extent the Examiner considers Rice to teach or suggest equal intervals of vision perception, the same is not necessarily surprising, given the context. And in no way can such teachings be considered to relate to the notion of equidistant spacing of discrete spectral color values in the context of a color gamut with a saturation coordinate, as set forth in the presently pending claims, since in such a color gamut, there is no correlation between equal distances along or across the gamut, and equal intervals of vision perception. This point is brought out in a number of available references, including in the Wikipedia entry relating to "Colorfulness" found at http://en.wikipedia.org/wiki/Colorfulness, in which it is noted that "chroma in CIE 1976 L*a*b* and L*u*v* color spaces is very much different from the traditional sense of "saturation". A "closed loop" formed on a color gamut including a saturation coordinate can be seen on the image: Excitation Purity.svg associated with the above-noted Wikepedia entry relating to "Colorfulness", and is set forth in a larger, more viewable version at http://en.wikipedia.org/wiki/Image:Excitation_Purity.svg. The Applicants therefore urge the Examiner to reconsider the pending claims as presently considered, and particularly in light of the above-quoted section of the Summary of the Invention section of the as-filed application (see section V. herein) which demonstrates the importance of understanding the significance of the saturation coordinate as relates to the presently-claimed subject matter.

In such circumstances, *Rice* would appear to fail, *inter alia*, to teach or suggest a modification to the teachings of *Chan* that would yield an apparatus for, or a method including either of: 1) a step or function of providing a color gamut having or including a saturation coordinate, or 2) a step or function of dividing the color gamut into a plurality of discrete spectral color values, wherein at least one of the discrete spectral color values includes a plurality of different colors at least including a first color with a first saturation, wherein at least another of the discrete spectral color values includes the first color with a second saturation different than the first saturation, and wherein over at least a part of the color gamut, the discrete spectral color values are substantially equidistant to each other with respect to the color gamut, as required by each of independent claims 1, 18 and 29. As such, a *prima facie* case of obviousness has not been established because the combination of the cited references fails to yield a method or apparatus that includes all of the limitations recited in any of independent claims 1, 18 or 29. Thus, the Applicants respectfully submit that each of independent claims 1, 18 and 29 is patentable over *Chan* in view of *Rice*, and on that basis at least, should be allowed.
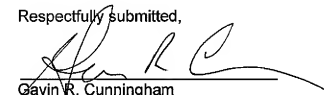
Claims 4-11, 12-17, 19-28, 30-32, and 34-35 depend, either directly or indirectly, from one or the other of independent claims 1, 18, and 29, and recite additional features therefor. At least since the subject matter of each of independent claims 1, 18, and 29 is not obvious in view of the cited combination of *Chan* and *Rice*, the subject matter of each of claims 4-11, 12-17, 19-28, 30-32, and 34-35 is similarly not obvious in view thereof. Accordingly, the Applicants respectfully submit that each of claims 4-11, 12-17, 19-28, 30-32, and 34-35 is patentable over all the art of record, including specifically the cited combination of *Chan* and *Rice*, and on that basis at least, should be allowed.

CONCLUSION

In view of the foregoing, the Applicants submit that the Examiner's concerns leading to the present objections to the specification and the claims of the application have been fully and completely addressed, and each of the claims presently pending in the application is directed to patentable subject matter and is patentable over all of the prior art currently of record. Accordingly, swift issuance of a notice of allowance with respect to all pending claims is earnestly solicited.

If, however, the Office believes that any unresolved issues still exist or if, in the opinion of the Office, a telephone conference would expedite passing the present application to issue, the Office is invited to call the undersigned attorney directly at 203-399-5928 or the office of the undersigned attorney at 203-399-5900 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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